

NOTES.

THE Bakerian Lecture of the Royal Society will be delivered next Thursday, May 18. The subject is "The Crystalline Structure of Metals," by Prof. Ewing, F.R.S., and Mr. W. Rosenhain.

A DINNER of the Royal Institute of Public Health will be held at the Hotel Cecil on June 7 to meet Lord Lister, P.R.S., who will be presented with the Harben gold medal, and other distinguished guests, who will receive the Honorary Fellowship of the Institute.

THE Council of the Royal Geographical Society has awarded the founder's gold medal for this year to Captain Binger, who in the years 1887-89 carried out an extensive series of explorations in the vast area included in the bend of the Niger. The patron's medal has been awarded to M. Foureau for his explorations in the Sahara during the last twelve years. The Murchison award has been given to Mr. Albert Armitage for his valuable scientific observations made during the Jackson-Harmsworth Arctic expeditions; the Gill memorial to the Hon. David Carnegie for his journey across the Western Australian desert; the Cuthbert Peek grant to Dr. Nathorst for his important scientific exploration of the Spitsbergen Islands and the seas between Spitsbergen and Greenland; the Back grant to Captain Sykes for his three journeys through Persia, during which he has made important corrections and additions to the map of that country, and done much to clear up the geography of Marco Polo. These honours will be awarded at the anniversary meeting of the Society on June 5, and at the same time the American Ambassador will present to Sir John Murray the gold medal of the American Geographical Society for his contributions to scientific geography.

THE Duke of the Abruzzi has left Rome for Turin, whence he will start on his journey to the Arctic regions.

A LECTURE on "London Fog and Smoke," delivered by the Hon. F. A. Rollo Russell at the Building Trades Exhibition, is published in the *Public Health Engineer* of May 4. From the tables given it appears that during the five months November 1898 to March of the present year, London had rather less than half the amount of sunshine of inland stations, and little more than one-third of the sunshine of the stations on the south coast—all the stations with which comparison was made being within a hundred miles of the metropolis. Mr. Russell thinks that drastic measures should be taken to reduce the smoke nuisance from which London suffers. Apparatus conforming to certain stipulations are now enforced upon owners of house property by the local authorities, and there is no reason why similar rules for the public advantage should not be imposed upon builders and owners in relation to the consumption of fuel. Mr. Russell remarks in conclusion: "If any serious difficulty presents itself in bringing into practice the suggested taxes and remissions, the same principle of compulsion which is adopted for drainage, sanitary appliances, and building materials, might be put into force for the sake of atmospheric purity. There is nothing more important for the welfare of the race than good air, and we know that largely owing to the want of it, the populations of the central parts of our big towns decline and perish, unless continually recruited from the country. And thousands are ever flocking from country to town. Only by a return to the country, or by great improvements in the conditions of urban life, can the nation maintain its prosperity."

THE annual conversazione of the Society of Arts will take place at the Natural History Museum, South Kensington, on Tuesday, June 20.

NO. 1541, VOL. 60]

News has reached us of the death of Mr. Mariano de la Bárcena, director of the Central Meteorological Observatory, Mexico.

THE fourth annual congress of the South-Eastern Union of Scientific Societies will be held in the Mathematical School, Rochester, on May 25-27, under the presidency of Prof. G. S. Boulger.

ON Tuesday next, May 16, Prof. W. J. Sollas, F.R.S., will deliver the first of a course of three lectures at the Royal Institution on "Recent Advances in Geology"; and on Thursday, May 25, Prof. L. C. Miall, F.R.S., will begin a course of two lectures on "Water Weeds."

REFERRING to the recent celebration of the centenary of Spallanzani, the Rome correspondent of the *Lancet* says:—Nature study, up to its most refined developments in clinical observation and research, was largely represented at Scandiano, where the great naturalist, physiologist, and scholar, Lazzaro Spallanzani, died one hundred years ago. Prof. Todaro (Rome), Prof. Mosso (Turin), Prof. Bertolini (Bologna), Prof. Pavese (Pavia), and many others hardly less distinguished, met to do honour to his memory and to inaugurate the *gabinetti scientifici* erected in the neighbouring Reggio Emilia to continue and commemorate his work. The Minister of Public Instruction was represented by Moleschott's successor in the Roman chair of Physiology, Prof. Luciani, whose speech at the tomb of the hero of the day was in all respects worthy of his reputation.

THE first statutory general meeting of the National Association for the Prevention of Consumption and other Forms of Tuberculosis, of which the Prince of Wales is president, was held on Thursday last. The Association has made much progress, no less than 1252 members having been enrolled. The members of the Council include Sir W. Broadbent, Sir J. Blyth, Sir G. T. Brown, Sir J. Crichton Browne, Sir J. T. Brunner, M.P., Sir A. Christison, Sir Ernest Clarke, Prof. Corfield, Sir R. G. Wyndham Herbert, Prof. McFadyean, Sir H. Maxwell, and Sir Frederick Wills. Dr. Clifford Allbutt, in moving a vote of thanks to the organising committee, said that since the last generation England had been losing the leading position which she had attained in preventive medicine, and he suggested the advisability of chairs of comparative pathology being established. Dr. Church, the president of the Royal College of Physicians, in seconding the motion, pointed out that the movement against tuberculosis was not a matter in which the medical profession alone were interested, or in which they should take a leading part.

THE short paper on "Aetheric Telegraphy" read before the Society of Arts on May 3, by Mr. W. H. Preece, C.B., F.R.S., and printed in the current number of the Society's *Journal*, constitutes an instructive statement as to what has been accomplished in wireless telegraphy by Mr. Marconi and before him, and what can be expected from it in the near future. As to the practical value of wireless telegraphy at present, Mr. Preece remarks: "There can be no question of the commercial value of the system for lightships, isolated lighthouses, shipping generally, and for naval and military purposes, but for commercial uses, such as telegraphic communication with France, the system is at present nowhere. A single cable to France could transmit 2500 words a minute without any difficulty. A single Marconi circuit could not transmit more than twenty words a minute."

IN connection with the subject of electrical signalling without intervening wires, an interesting letter by Prof. D. E. Hughes appears in the current number of the *Electrician*. Prof. Hughes describes experiments made by him in 1879, and witnessed by several distinguished Fellows of the Royal Society, on

phenomena produced by ether waves, and the action of the waves on a microphonic coherer across intervening space. Electric waves as such were then unknown to science, so that Prof. Hughes apparently anticipated Hertz's brilliant discoveries. He also conducted experiments on wireless signalling on a considerable scale. In 1879, 1880, and 1888, he demonstrated to several eminent men of science his experiments upon aerial transmission of signals by means of the extra current produced from a small coil, and received upon a semi-metallic microphone, the results being heard upon a telephone in connection with the receiving microphone. The transmitter and receiver were in different rooms, about 60 feet apart, but signals were also received up to a distance of 500 yards, and an attempt was made to signal between houses a mile apart. Prof. Hughes considered that the results were produced by aerial electric waves; and it was because he was unable to demonstrate the actual existence of these waves that his investigations were never published.

A GOOD instance of the manner in which "sea-serpent" myths originate is afforded by certain paragraphs which have recently appeared in the Australian papers. In its issue of February 23 the Melbourne *Argus* announced the discovery at Suwanaw Island, by the officer of a local steamer, of the remains of a sea-monster that had been stranded there some two months previously. The creature was said to be in such a bad condition that collecting its remains was a most trying task; but "two heads, the two backbones, and part of the ribs" were secured. It was stated that there was "but one body, which had a double spine, and two distinct heads"; while the approximate weight of the animal was estimated at not less than 70 tons, and its length fully 60 feet! In the issue of the following day the skulls were said to be about 3 feet long, and to carry a pair of tusks at the tip of the lower jaw. On March 2 the same paper published an announcement that Mr. E. Waite, of the Australian Museum, had identified the remains as those of a "Zithoid"—obviously a misprint for "Ziphoid." It would thus appear that the alleged double-headed monster of 70 tons weight and 60 feet length was based on two carcases of one of the species of Beaked Whales which are of such comparatively common occurrence on the Australian coasts, and the largest of which is not known to exceed 30 feet in length!

AT the last meeting of the Anatomical Society of Great Britain and Ireland, Dr. Elliot Smith settled a point in the comparative morphology of the brain, which at one time was the subject of a heated controversy between Huxley and Owen. In 1861, it may be remembered, Owen maintained that the *calcar avis* and the calcareous fissure which causes it, were characters peculiar to the brain of man; a statement which Huxley showed to be untrue, the formations being well-marked in all Primate brains. Dr. Elliot Smith has reached the further generalisation that the *calcar avis* is a character shown by all mammalian brains, with the possible exception of the Protatherian. He identifies, and the reasons for this identification do not seem capable of refutation, the calcareous fissure of the Primate brain with the splenial fissure of the brain of other mammals. This generalisation will materially assist in homologising the Primate and Unguiculate *pallium*.

IN a paper on "The Western Interior Coal-field of America," by Mr. H. Foster Bain, read at a recent meeting of the North of England Institute of Mining and Mechanical Engineers, the author refers to the estimated area of the coal-fields of the United States as being from 200,000 to 300,000 square miles. In this estimate tracts of Mesozoic as well as Carboniferous coal-bearing strata are included. The Western Interior coal-field occupies a portion of the western half of the Mississippi valley, and is the

third in point of production in the United States. Its yield in 1897 was over thirteen million tons. The strata are all grouped as Carboniferous, although some of the higher portions have been regarded as Permo-Carboniferous. Correlations based on fossil evidence are said to be of doubtful value, as the common fossil of the upper strata occur well down in the lower beds. With regard to the coal-seams, all grades from semi-anthracite to free-burning non-coking coal occur, including gas-coal, cannel, and coking-coals.

THE detailed petrographical description of some rock-specimens from Ceylon forms the subject of an interesting paper, by Herr Max Diersche, in the *Jahrbüch der k. k. geol. Reichsanstalt*, Bd. xlvi. Hft. 2 (Wien, 1898). The work is based on material collected by Prof. F. Zirkel during the winter of 1894, and the rock-types described include normal granulite, pyroxene-granulite, gneiss, granite, limestone, and quartzite. An interesting section is devoted to a description of the plumbago of Ragedara and its inclusions. The author remarks on the peculiar occurrence of the graphite at this locality in the form of ramifying veins of varying thickness, sharply marked off at the margins from the surrounding matrix of granulite and pyroxene-granulite. The peculiar mineral and rock inclusions which occur in the graphite veins are dealt with at length, and the paper concludes with a brief discussion of some of the theories that have been brought forward to account for the origin of the graphite. This number of the *Jahrbüch* contains also a geological description of the southern part of the Karwendel Alps, by Herrn Ampferer and Hammer. The region comprised is situated immediately to the north of the Inn valley in the neighbourhood of Innsbruck, and is one which, from its complex relations of structure and facies, offers many difficult problems for geological elucidation. But the authors, with limited time at their disposal, have dealt in a comprehensive manner with the stratigraphy and tectonic relations of this complicated area; and their paper, illustrated by numerous diagrams and accompanied by a coloured geological map, should prove of value to students of Alpine geology.

ANOTHER important contribution to our knowledge of the geology of the Alps appears in the *Verhandlungen* of the above institution (December 1898), where Dr. E. Shellwien records the discovery of a typical marine Permo-Carboniferous fauna in the neighbourhood of Neumarkt, in the Eastern Alps. This occurs at the horizon of the light *Fusulina*-limestone of the Carnic Alps, and there is evidence that in this region there has been uninterrupted deposition from the middle of the Upper Carboniferous into the Lower Permian. The author is led to regard this Permo-Carboniferous limestone as the equivalent of the Cusel beds of Germany. The fauna includes new and interesting forms, and among the Brachiopoda some remarkable types are found to occur. Besides representatives of the genera *Scacchinella* and *Meekella*, a new genus, *Tegulifera*, is present in abundance. It is characterised by a peculiar mode of growth of the larger valve, the lateral margins of which overlap the smaller valve, and, by their continued growth, ultimately envelop the latter completely. The discovery of this comparatively rich fauna corroborates in the fullest manner the views for some time held by Stache regarding the true age of the upper *Fusulina*-limestone stage in the Carnic and Julian Alps.

WE have received a copy of the Second Annual Report of the Geological Commission of the Cape of Good Hope for 1897, and published in 1898. This contains a first instalment of the geological map, neatly printed in colours, and including great part of the Colony eastwards to Cape Infanta and Ladismith, and northwards to Cape Columbine and Laingsburg. The map, which is on a scale of about an inch to 12 miles, is the work of Messrs. A. W. Rogers and E. H. L. Schwarz; and it is accom-

panied by sections showing the flexured structure of the country. A well-deserved tribute is paid to the previous labours of Andrew Geddes Bain and E. J. Dunn. The oldest rocks, known as the Malmesbury Beds, comprise non-fossiliferous slates, micaschists and quartzites, with intrusive granite. A great unconformity exists between these rocks and the overlying Table Mountain Sandstone. That series again is non-fossiliferous, but it is succeeded by the Bokkeveld Beds, shales and sandstones which yield genera characteristic of the Devonian period. The overlying Witberg Beds, mainly quartzites, have yielded but a few obscure plant-remains; while still higher in the sequence comes the Dwyka Conglomerate, which may be of subaërial origin; and above it there is a series of shales and sandstones, known as the Eccca Beds, which have yielded occasional plant-remains. This great series overlying the Bokkeveld Beds is usually regarded as of Carboniferous age. Attention is given in the Report to the superficial deposits, and to the economic products of the regions examined. The work of the Survey is superintended by Prof. G. S. Corstorphine.

THE Meteorological Section of the Hydrographical Committee of St. Petersburg has published, as a supplement to vol. xix. of the *Hydrographical Journal*, a useful collection of tables referring to lighthouses and stations on the shores of the Black Sea and Sea of Azov, and of the Caspian, Baltic and White Seas. The observations were made in the years 1890-6, and give for each month and year particulars relating to the level of the water, the direction and velocity of wind, and the temperature of the sea surface. The text also contains details of the various stations, the times of observation, &c.

IN the *Verhandlungen* for 1898 of the Natural History Society for the Prussian Rhineland, &c., Dr. Geisenheyner commences an exhaustive account of the Rhenish Polypodiaceæ. The present instalment is entirely devoted to the three species *Blechnum spicant*, *Scolopendrium vulgare*, and *Ceterach officinarum*; numerous forms, varieties, and sports being described in great detail.

THE first and second Hefts of vol. xxvii. of Engler's *Botanische Jahrbücher* are chiefly devoted to instalments, by various authors, of the editor's contributions to the Flora of Africa. There are, in addition, papers by Dietel and Neger on the Uredineæ of Chile; by Pilger, on South American grasses; and by Ule, on the Sphagnaceæ of Brazil.

MR. A. H. TROW reprints from the *Annals of Botany* a paper containing an elaborate account of researches on a Welsh variety of *Achlya americana*, undertaken with the special object of determining the nature of the chromosome-like body in the centre of the nucleus. His conclusion is that the nucleus is bounded by a nuclear membrane, and possesses a central body of spongy texture, which contains chromatin and nucleolar matter, but is neither a nucleole nor a chromosome. He thinks it probable that the reducing divisions in the different groups of plants are not all homologous. There is a true homology in the Muscineæ, Vascular Cryptogams, and Spermaphytes; while in the Thallophytes there are apparently two types of reducing division which are not homologous.

WE have received (in two parts) an exhaustive account of the indigenous native drugs of Australia, by Mr. J. H. Maiden, Government Botanist, issued by the Department of Agriculture, Sydney. It would appear, from Mr. Maiden's opening remarks, that Queensland is by far the richest of the Australian Colonies in native medicinal plants; but the great majority of these are common to India and the Eastern Archipelago. In New South Wales the number of really useful native drugs is very small. In contrast to the natives of India, the Australian aborigines

have but very little knowledge of the medicinal properties of their native plants. In addition to a portion of this same paper, the *Agricultural Gazette of New South Wales* for February 1897 contains also the commencement of a paper by Mr. Maiden on the native food-plants of Australia, as well as a number of others by various writers on the cultivation of fruits and other food-plants, and on the breeding of live-stock, of interest to the colonists.

As already announced, MM. Georges Carré and C. Naud have commenced the publication of a physical and a biological series of brochures, under the title of *Scientia*. The third volume of the biological series, "Les fonctions rénales," by Prof. H. Frenkel, has just been published.

Pearson's Magazine for May has an interesting article, by Sir Clements Markham, illustrated by several instructive maps, on the parts of the earth which remain to be explored. The same number contains a short account of Mr. Nikola Tesla's experiments with currents of high potential and high frequency.

THE second part of Mr. M. M. Pattison Muir's "Course of Practical Chemistry" has just been published by Messrs. Longmans, Green, and Co. The first part appeared in 1895, and a third part has yet to be published in order to complete the work. We propose to review Mr. Muir's systematic course of laboratory work when the three volumes are available.

PROF. MAURICE FITZGERALD writes to say that in his article on "The Flight of Birds," in NATURE of April 27, he inadvertently attributed to Lord Kelvin the explanation of the way in which birds may utilise varying air currents for soaring instead of to Lord Rayleigh, who published it in NATURE on April 5, 1883 (vol. xxvii. p. 534).

THE relationships between organic and inorganic chemistry were discussed by Dr. H. N. Stokes in an address recently delivered before the Chemical Society of Washington, and printed in *Science*. Incidentally Dr. Stokes remarks: "The aim of physical chemistry will have been accomplished when it has established a mathematical equation which, by proper substitution, will enable us to predict the nature of every possible chemical system or reaction, and the properties, physical and chemical, of every possible element or compound."

MR. J. G. FRAZER concludes, in the current number of *The Fortnightly Review*, a contribution commenced in the April issue on "The Origin of Totemism." The general explanation of totemism to which the *Intichiuma* ceremonies, which are described in "The Native Tribes of Central Australia," by Messrs. Spencer and Gillen, and discussed in the first part of the paper, seem to point is that it is primarily an organised and co-operative system of magic designed to secure for the members of the community, on the one hand, a plentiful supply of all the commodities of which they stand in need, and, on the other hand, immunity from all the perils and dangers to which man is exposed in his struggle with nature. Such an explanation is shown to be both simple and natural, and in entire conformity with the practical needs as well as the modes of thought of savage man. Referring to the investigations made by Messrs. Spencer and Gillen, Mr. Frazer, while admitting that it may be premature to say their work has finally solved the problem of totemism, says the researches at least point to a solution more complete and satisfactory than any that has hitherto been offered.

PROF. HERDMAN, F.R.S., with the assistance of Mr. Andrew Scott and Mr. James Johnstone, has drawn up in the form of a brochure of eighty-eight pages, the report for 1898 of the Lancashire sea-fisheries laboratory at University College, Liverpool, and the sea-fish hatchery at Piel. The report contains papers by Mr. Andrew Scott on fish-hatching work at Piel, observations on the occurrence and habits of *Leptocephalus*, observations on

the habits and food of young fishes, plankton work and experiments with weighted drift and bottles. Mr. James Johnstone writes on the spawning of the mussel (*Mytilus edulis*); Prof. Herdman on sea-fish hatching, and on oysters and disease; Mr. Charles A. Kohn on occurrence of iron and copper in oysters; Mr. R. S. Ascroft on mussels and mud-banks; and Messrs. F. W. Keeble and F. W. Gamble present a brief report on the physiology of colour-change in *Hippolyte* and other marine crustacea. This is the first complete year of Mr. Scott's work at the Piel hatchery, and of Mr. Johnstone's work at the laboratory. The laboratory attached to the hatchery is open, under certain conditions, to the use of *bona-fide* students and others desirous of prosecuting research. A glance at the above list of papers will show the variety and extent of the investigations that were undertaken last year.

THE scientific activity of the Société de Physique et d'Histoire naturelle de Genève during 1898 is evidenced by the survey of papers published in the *Archives* of the Society, given by Prof. Albert Rilliet in his presidential report just issued. In mathematics and astronomy M. René de Saussure contributed the results of a geometrical study of the movement of fluids, Prof. Gautier computations referring to the return of Tempel's periodic comet, and M. Pidoux observations of an occultation of Antares by the moon. In physics and chemistry M. Dumont gave an account of researches on the magnetic properties of iron and nickel, MM. Dutoit and Friderich described a method of indirectly calculating critical pressure, Prof. Amé Pictet gave an account of further researches on the synthesis of nicotine, and Prof. Soret described his investigations of the causes which produce left- and right-handed crystals in salts active in the crystalline state and inactive in solution. Although no positive results were obtained, the work is important from a statistical point of view. Among the subjects of papers in zoology, physiology, and medicine, were the development of butterflies, by M. Arnold Pictet; and the place of origin of vaso-motor nerves, and effects of currents of high frequency upon the frog, by Dr. Batelli. In botany, a paper by Mlle. Goldfuss on the functions of certain cells was communicated by Prof. Chodat. In physical geology, M. Ed. Sarasin described the records obtained by a limnimeter established at Lucerne during five months in 1897. The records show three distinct periods of oscillation. The results of a detailed inquiry into the constitution of Mont Blanc are given by Prof. Duparc in an important memoir just published by the Society. Finally, mention may be made of a paper by MM. Etienne Ritter and Delebecque on the lakes of the Pyrenees. A number of other papers were read before the Society during 1898, but those here mentioned will be sufficient to show the valuable character of the work accomplished.

THE additions to the Zoological Society's Gardens during the past week include two Mozambique Monkeys (*Cercopithecus pygerythrus*), a Sykes's Monkey (*Cercopithecus albicularis*) from East Africa, presented by Mr. Boyd Alexander; a Macaque Monkey (*Macacus cynomolgus*) from India, presented by Mrs. Herbert Peel; a Slow Loris (*Nycticebus taragiadrus*) from Malacca, presented by Mr. W. H. St. Quintin; two Squirrel-like Phalangers (*Petaurus sciureus*, ♂ ♀) from Australia, presented by Mr. A. V. Willcox; four Dormouse Phalangers (*Dromiciops nana*) from Tasmania, presented by Dr. McDougall; a Greater Black-backed Gull (*Larus marinus*), a Lesser Black-backed Gull (*Larus fuscus*), European, presented by the Rev. W. B. Tracy; a Drill (*Cynocephalus leucocophoeus*), a Kusimanse (*Crossarchus obscurus*), a Pardine Genet (*Genetta pardina*), a Home's Cinixys (*Cinixys homeana*), a Derbyian Sternothere (*Sternothorax derbianus*) from West Africa, a Bell's Cinixys (*Cinixys belliana*) from Tropical Africa, a Common Zebra

(*Equus zebra*, ♂) from South Africa, a Grecian Ibex (*Capra cegagrus*, ♂), South-east European, a Two-wattled Cassowary (*Casuarius bicarunculatus*) from the Aroo Islands, deposited; two Larger Tree Ducks (*Dendrocygna major*) from India, purchased; a Mouflon (*Ovis musimon*, ♀) born in the Gardens.

OUR ASTRONOMICAL COLUMN.

COMET 1899 a (SWIFFR).—This comet is now well situated for observation in the early morning, and has been frequently seen during the past week. Passing rapidly to the north-west, it will rise earlier every morning, and opportunities will be afforded of obtaining both photographic and visual records of its form and spectrum. The positions predicted by the ephemeris are so nearly correct that there is no possibility of mistaking the comet. As seen on several mornings at the Solar Physics Observatory, South Kensington, it appears to the unaided eye as bright as a star of the fourth magnitude, and, though possessing no tail, is sufficiently unlike a star in appearance to attract notice. With a telescope it is seen to consist of an irregular nucleus about 1' in diameter, surrounded by a much fainter nebulous mass some 10' in diameter. Photographs of the spectrum have been obtained showing six bands between D and H, the origins of which have not yet been deduced.

During the week the comet will pass from Pegasus into Lacerta, through a region devoid of conspicuous stars; but on the 17th it will be about 3° west of the second magnitude star α Andromedæ.

The following ephemeris is by Herr H. Kreutz in *Astr. Nach.* (Bd. 149, No. 3556).

Ephemeris for 12h. Berlin Mean Time.

1899.	R.A.	Decl.	Br.
	h. m. s.	°	
May 11	23 26 28	+33 12' 7	1.66
12	20 48	34 33' 1	
13	14 41	35 36' 8	1.68
14	8 2	37 23' 9	
15	23 0 46	38 54' 2	1.71
16	22 52 48	40 27' 8	
17	44 2	42 4' 2	1.74
18	22 34 21	+43 42' 9	

TEMPEL'S COMET (1873 II.).—The following ephemeris for this comet is by M. L. Schulhof in *Astr. Nach.* (Bd. 149, No. 3554):—

Ephemeris for 12h. Paris Mean Time.

1899.	R.A.	Decl.	Br.
	h. m. s.	°	
May 11	19 0 46' 1	- 4 15 "	
12	2 25' 8	4 11 42	0.592
13	4 5' 2	4 8 30	
14	5 44' 2	4 5 29	
15	7 22' 7	4 2 38	
16	9 0' 9	3 59 59	0.673
17	10 38' 7	3 57 31	
18	19 12 16' 1	- 3 55 17	

The comet is moving slowly to the north-east, passing from Scutum Sobieski into the southern part of Aquila, being about 10° S.W. of α Aquilæ on the 18th.

A telegram just received from Kiel announces the first observation of this comet during this apparition, by Prof. Perrine at the Lick Observatory. Its position as measured was R.A. 18h. 52m. 58s. } 1899 May 6, 13h. 40' 5m. Lick Mean Decl. - 4° 32' 19" Time, and it is described as being faint.

The close agreement of these numbers with the computed data given in the ephemeris renders any revision of the latter unnecessary.

PROGRESS IN THE IRON AND STEEL INDUSTRIES.¹

THE announcement that Her Majesty the Queen will be graciously pleased to accept the Bessemer Medal for 1899, in commemoration of the progress made in the iron and steel industries during her reign, will be received with enthusiasm throughout the Empire. What the progress has been it will be

¹ Abstract of the presidential address to the Iron and Steel Institute, by Prof. Sir W. Roberts-Austen, K.C.B., D.C.L., F.R.S., delivered before the members of the Institute on May 4.